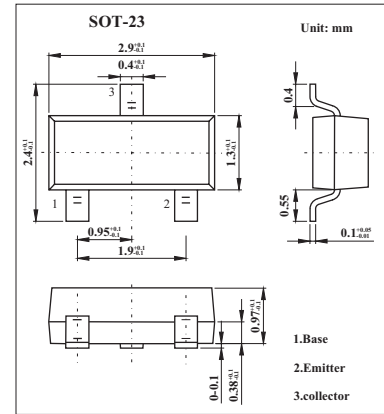


## NPN Transistor BC847B

### ■ Features

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications



### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	BC84680		V
	BC847	50	
	BC848	30	
Collector-Emitter Voltage	BC846	65	V
	BC847	45	
	BC848	30	
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current -Continuous	$I_C$	0.1	A
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-65 to +150	$^\circ\text{C}$

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector-base breakdown voltage	BC846	$I_c = 10 \mu\text{A}, I_E = 0$	80			V	
	BC847		50				
	BC848		30				
Collector-emitter breakdown voltage	BC846	$I_c = 10\text{mA}, I_B = 0$	65			V	
	BC847		45				
	BC848		30				
Emitter-base Breakdown voltage	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_c = 0$	6			V	
Collector-base cutoff current	BC846	$I_{CBO}$	$V_{CB} = 70\text{V}, I_E = 0$			0.1	$\mu\text{A}$
	BC847		$V_{CB} = 50\text{V}, I_E = 0$				
	BC848		$V_{CB} = 30\text{V}, I_E = 0$				
Collector-emitter cutoff current	BC846	$I_{CEO}$	$V_{CE} = 70\text{V}, I_B = 0$			0.1	$\mu\text{A}$
	BC847		$V_{CE} = 50\text{V}, I_B = 0$				
	BC848		$V_{CE} = 30\text{V}, I_B = 0$				
Emitter-base cutoff current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_c = 0$			0.1	$\mu\text{A}$	
DC current gain	BC846A,847A,848A	$h_{FE}$	$V_{CE} = 5\text{V}, I_c = 2\text{mA}$	110		220	
	BC846B,847B,848B			200		450	
	BC847C,848C			420		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 100\text{mA}, I_B = 5\text{mA}$			0.5	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c = 100\text{mA}, I_B = 5\text{mA}$			1.1	V	
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$			4.5	pF	
Transition frequency	$f_T$	$V_{CE} = 5\text{V}, I_c = 10\text{mA}, f = 100\text{MHz}$	100			MHz	

■ Marking

NO.	BC846A	BC846B
Marking	1A	1B

NO.	BC847A	BC847B	BC847C
Marking	1E	1F	1G

NO.	BC848A	BC848B	BC848C
Marking	1J	1K	1L

■ Typical Characteristics

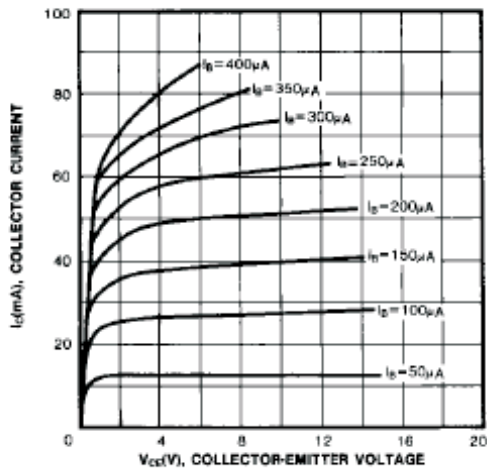


Fig.1 Static Characteristic

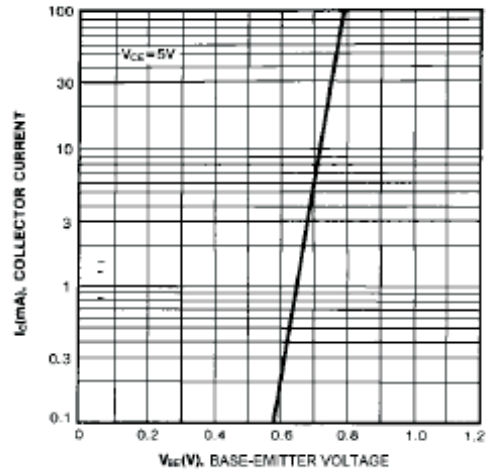


Fig.2 Transfer Characteristic

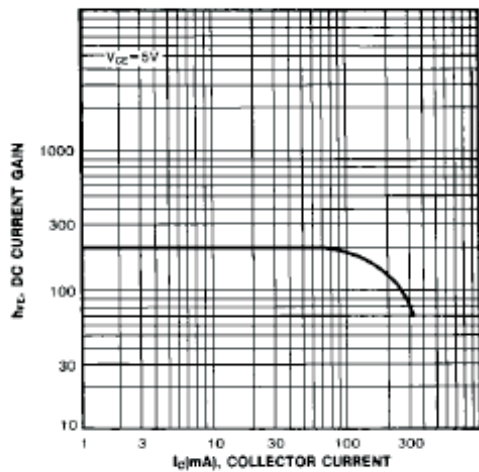


Fig.3 DC Current Gain

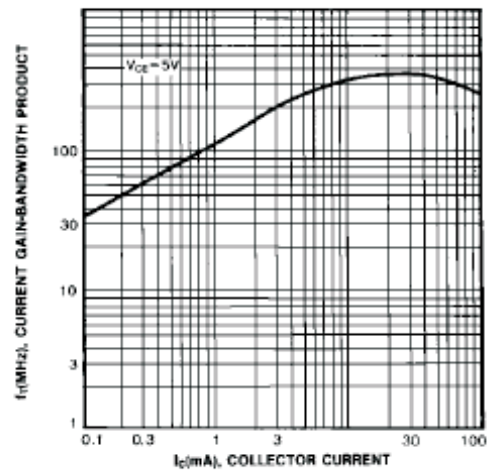


Fig.4 Current Gain Bandwidth Product

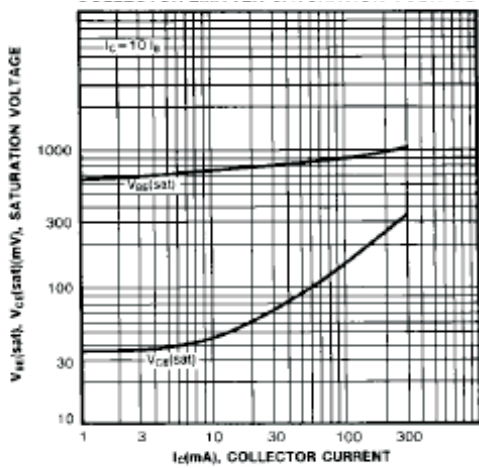


Fig.5 Base Emitter Saturation Voltage  
Collector Emitter Saturation Voltage

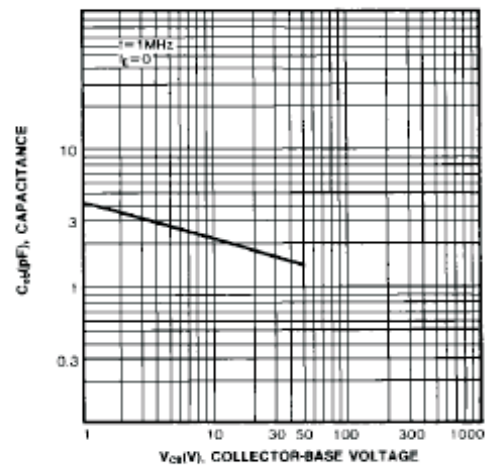


Fig.6 Output Capacitance